

## CLAIMS

What is claimed is:

- 1     1.     A method for receiving signals based on a plurality of systems, the method  
2     comprising:  
3         converting a first signal based on a first system to a first baseband signal;  
4         converting a second signal based on a second system to a second baseband  
5     signal;  
6         processing the first baseband signal using baseband components; and  
7         processing the second baseband signal using the baseband components.
- 1     2.     The method of claim 1, wherein the first system and the second system each  
2     include at least one of the following systems code-division multiple access,  
3     personal-communication service, global-positioning satellite, digital-broadcast  
4     satellite, and global system for mobile communications.
- 1     3.     The method of claim 1, wherein the processing includes at least one of  
2     filtering, amplifying, providing digital-to-analog conversion, providing analog-to-  
3     digital conversion, sampling, and correcting for direct current (DC) offset.
- 1     4.     The method of claim 1, wherein the processing includes processing in at least  
2     one of a digital domain and an analog domain.
- 1     5.     The method of claim 1, wherein the processing includes configuring at least  
2     one of the baseband components for a first frequency response characteristic for the  
3     first baseband signal and configuring the at least one of the baseband components for  
4     a second frequency response characteristic for the second baseband signal.

1 6. The method of claim 5, wherein the at least one of the baseband components  
2 include at least one of low-pass filters, finite-impulse response filters, and DC-offset  
3 correction elements.

1 7. The method of claim 1, wherein the baseband components include at least  
2 one of low-pass filters, all-pass filters, variable-gain amplifiers, analog-to-digital  
3 converters, digital-to-analog converters, finite-impulse response filters, smoothing  
4 filters, decimator filters, and DC-offset correction elements.

1 8. The method of claim 1, wherein the converting and processing are performed  
2 for a plurality of signals from a plurality of systems.

1 9. The method of claim 1, wherein the processing includes sampling at a first  
2 sampling rate for the first baseband signal and a second sampling rate for the second  
3 baseband signal.

1 10. The method of claim 9, wherein the sampling is performed by at least one of  
2 a decimator filter, a digital-to-analog converter, and an analog-to-digital converter.

1 11. A multi-mode receiver system for processing signals based on a plurality of  
2 systems, comprising:

3 a baseband section configured to process a first baseband signal based on a  
4 first system using baseband components, wherein the baseband section is further  
5 configured to process a second baseband signal based on a second system using the  
6 baseband components.

1 12. The system of claim 11, further including a downconverter that is configured  
2 to convert a first signal to the first baseband signal and a second signal to the second  
3 baseband signal.

1 13. The system of claim 11, further including a first downconverter and a second  
2 downconverter, the first downconverter configured to convert a first signal to the  
3 first baseband signal, the second downconverter configured to convert a second  
4 signal to the second baseband signal.

1 14. The system of claim 11, wherein the first system and the second system each  
2 include at least one of the following systems code-division multiple access,  
3 personal-communication service, global-positioning satellite, digital-broadcast  
4 satellite, and global system for mobile communications.

1 15. The system of claim 11, wherein the baseband components include at least  
2 one of low-pass filters, all-pass filters, variable-gain amplifiers, analog-to-digital  
3 converters, digital-to-analog converters, finite-impulse response filters, smoothing  
4 filters, decimator filters, and DC-offset correction elements.

1 16. The system of claim 11, wherein at least one of the baseband components are  
2 configured for a first frequency response characteristic for the first baseband signal  
3 and configured for a second frequency response characteristic for the second  
4 baseband signal.

1 17. The system of claim 16, wherein the at least one of the baseband components  
2 include at least one of low-pass filters, finite-impulse response filters, and DC-offset  
3 correction elements.

1 18. The system of claim 11, wherein at least one of the baseband components is  
2 configured to sample at a first sampling rate for the first baseband signal and a  
3 second sampling rate for the second baseband signal.

1 19. The system of claim 18, wherein the at least one of the baseband components  
2 includes at least one of a decimator filter, a digital-to-analog converter, and an  
3 analog-to-digital converter.

1 20. The system of claim 11, wherein the baseband section is further configured  
2 to process a plurality of signals from a plurality of systems.

1 21. A transceiver, comprising:  
2 means for transmitting signals;  
3 means for receiving signals, wherein the means for receiving includes pre-  
4 converting processing means;  
5 means for converting a first signal based on a first system to a first baseband  
6 signal;  
7 means for converting a second signal based on a second system to a second  
8 baseband signal; and  
9 means for processing the first baseband signal, wherein the means for  
10 processing the first baseband signal is used for processing the second baseband  
11 signal.

1 22. The transceiver of claim 21, wherein the first system and the second system  
2 each include at least one of the following systems code-division multiple access,  
3 personal-communication service, global-positioning satellite, digital-broadcast  
4 satellite, and global system for mobile communications.

1 23. The transceiver of claim 21, wherein the means for processing includes at  
2 least one of means for filtering, amplifying, providing digital-to-analog conversion,  
3 providing analog-to-digital conversion, sampling, and correcting for direct current  
4 (DC) offset.

1 24. The transceiver of claim 21, wherein the means for processing includes  
2 means for processing in at least one of a digital domain and an analog domain.

1 25. The transceiver of claim 21, wherein the means for processing includes  
2 means for providing a first frequency response characteristic for the first baseband  
3 signal and a second frequency response characteristic for the second baseband signal.

1 26. The transceiver of claim 21, wherein the means for processing includes  
2 means for sampling at a first sampling rate for the first baseband signal and a second  
3 sampling rate for the second baseband signal.

1 27. The transceiver of claim 21, wherein the means for transmitting, means for  
2 receiving, means for converting, and means for processing are performed for a  
3 plurality of signals from a plurality of systems.

1 28 A multi-mode receiver system, comprising:  
2 a code-division multiple access system having a common baseband system;  
3 and  
4 a digital-broadcast system that shares the common baseband system with the  
5 code-division multiple access system.

1 29. The multi-mode receiver system of claim 28, wherein the common baseband  
2 system includes at least one of a low-pass filter, an all-pass filter, a direct current  
3 (DC)-correction element, and a variable-gain amplifier.

1 30. The multi-mode receiver system of claim 29, wherein the low-pass filter and  
2 the DC-correction element are configured to include switchable bandwidths.

1 31. The multi-mode receiver system of claim 28, wherein the common baseband  
2 system includes at least one of a low-pass filter, an analog-to-digital converter, a  
3 decimator filter, a digital-to-analog converter, a smoothing filter, a finite-impulse  
4 response filter, a direct current (DC)-correction element, and a variable-gain  
5 amplifier.

1    32.    The multi-mode receiver system of claim 31, wherein at least one of the  
2    analog-to-digital converter, the digital-to-analog converter, and the decimator filter  
3    is configured to have a first sampling rate for the code-division multiple access  
4    system and a second sampling rate for the digital-broadcast system.

1    33.    The multi-mode receiver system of claim 31, wherein at least one of the  
2    finite-impulse response filter, the DC-correction element, and the decimator filter is  
3    configured to operate at a first frequency response for the code-division multiple  
4    access system and a second frequency response for the digital-broadcast system.